CALS TEST NETWORK

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Technical Publication Transfer

Using:

Harris Corporation's Data

MIL-R-28002A (Raster)

Quick Short Test Report

15 April 1993

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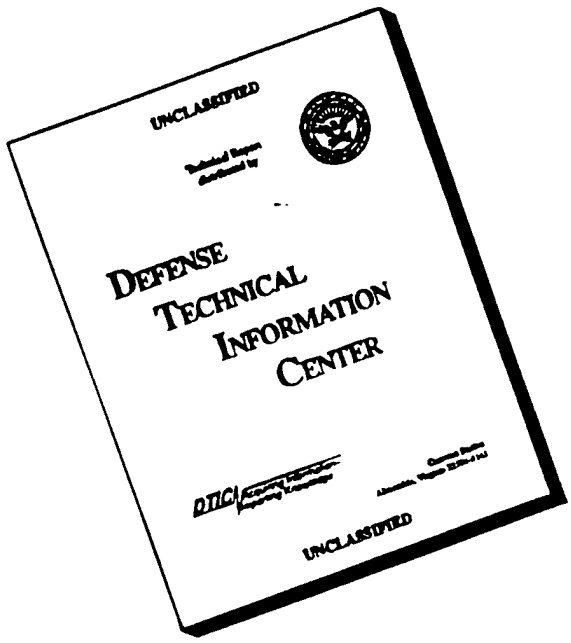

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Technical Raster Transfer Using: Harris Corporation's Data

MIL-R-28002A (Raster)

Quick Short Test Report

15 April 1993

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1. Introduction

1.1 Background

The Department of Defense (DoD) Continuous Acquisistion and Life-Cycle Support (CALS) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develope increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test, reported in this QSTR, was to analyze Harris Corporation's interpretation and use of the CALS standards, in transferring technical Raster data. They were also evaluating two different tape writing utilities. Harris Corp. used its CALS Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff on two 9-track magnetic tapes.

2. Test Parameters

Test Plan: AFCTB 93-036

Date of Evaluation: 15 April 1993

Evaluator:
George Elwood
Air Force CALS Test Bed
Det 2 HQ ESC/ENCP
4027 Colonel Glenn Hwy
Suite 200
Dayton OH 45431-1672

Data Originator:
Duane A. Bishop
Harris Corporation
301 Washington Street
Bellevue NE 68005-2558
(402) 293-2558

Data Description: Technical Manual Test
5 Document Declaration files
9 Raster files

Data Source System:

1840 Tape

HARDWARE
Gateway 2000 486/33 TX-8
VAX 8350

SOFTWARE
Tapetool 1.2.8 DOS
Tapetool 1.2.8 VMS

Raster

HARDWARE
Gateway 2000 486/33

SOFTWARE
Inset Systems HiJaak for Windows

Evaluation Tools Used:

MIL-STD-1840A (TAPE)

SUN 3/280

- AFCTN *Tapetool v1.2.8 UNIX*
- AGFA Compugraphics *CAPS/CALS v40.4*
- Texas Instruments (TI) *Tapetool v1.0.1*

MIL-R-28002 (Raster)

SUN SparcStation 2

- ArborText *g42tiff*
- AFCTN *validg4*
- AFCTN *calstb.475*
- IGES Data Analysis (IDA) *IGESView v3.0*
- Island Graphics' *IslandPaint v3.0*

Cheetah

- Inset Systems *HiJaak v2.1*
- Inset Systems *HiJaak Window v1.0*
- Software Publishing Corporation (SPC) *Harvard Graphics v3.0*
- Corel *Ventura Publisher*

Standards Tested:

MIL-STD-1840A
MIL-R-28002A

3. 1840A Analysis

3.1 External Packaging

The tapes arrived at the Air Force CALS Test Bed (AFCTB) enclosed in a box in accordance with ASTM D 3951. The exterior of the box was not marked with the magnetic tape warning label, as required by MIL-STD-1840A, para. 5.3.1.3.

The tapes were enclosed in a barrier bag as required by MIL-STD-1840A, para. 5.3.1.2. Inspection of the tape reel showed the labels indicating the recording density, as required by MIL-STD-1840A, para. 5.3.1. Enclosed in the box was a packing list showing all files recorded on the tape.

3.2 Transmission Envelope

The 9-track tape received by the AFCTB contained MIL-STD-1840A files. The files were named per the standard conventions.

3.2.1 Tape Formats

Both tape one (VAX) and tape two (DOS) were run through the AFCTN *Tapetool v1.2.8* utility. No errors were encountered while evaluating the contents of the tape labels on either tape.

3.2.2 Declaration and Header Fields

No errors were reported during the evaluation of the CALS Document Declaration file or data file headers of tape one (VAX).

On tape two, five errors were reported, one in each of the Document Declaration Files. The tape was written using the DOS *Tapetool v1.2.8*, which has a bug in the date function. The reported error has been corrected in the next release of *Tapetool v1.2.9*.

```
dtetrn: 7463
*** ERROR (MIL-STD-1840A; 5.1.1.2) - Invalid date format encountered.
*** NOTE (MIL-STD-1840A; 5.1.1.2) - Date Format shall be a four digit year
    followed by a two digit month followed by a two digit day.
```

The physical structure of tape one (VAX) meets the CALS MIL-STD-1840A requirements. The physical structure of tape two (DOS) has an error which causes it not to meet the requirements.

4. IGES Analysis

No Initial Graphics Exchange Specification (IGES) files were included on this tape.

5. SGML Analysis

No Standard Generalized Markup Language (SGML) files were included on the tape.

6. Raster Analysis

The Raster files from tape one (VAX) were evaluated using the AFCTN *validg4* utility with no errors reported. The files were read into the AFCTN *calstb.475* viewing utility and displayed without a problem.

The files from tape two (DOS) were evaluated using the AFCTN *validg4* utility. All of the files were reported as being in error. The files could not be read into the AFCTN *calstb.475* viewing utility. The errors were traced to missing EOF markers. The DOS *Tapetool v1.2.8* did not pad the end of the Raster files causing these errors.

The AFCTB has several tools for viewing Raster files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use

of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings.

The files from tape one were converted using Arbortext's *g42tiff* utility and read into Island Graphics' *IslandPaint* without a problem.

The files were read into IDA's *IGESView* and displayed without a problem. Two hard copies were made and are included in the Appendix of this report.

The files were converted using Inset Systems' *HiJaak for DOS* and imported into Corel's *Ventura Publisher* without a reported problem. All of the files were printed and are included in the Appendix of this report.

The Raster files from tape one (VAX) meet the CALS MIL-R-28002A specification. The Raster files from tape two (DOS) do not meet the CALS MIL-R-28002A specification.

7. CGM Analysis

No Computer Graphics Metafile (CGM) files were included on the tape.

8. Conclusions and Recommendations

In summary, the physical structure of tape one (VAX), from Harris Corporation, was correct and meets the CALS MIL-STD-1840A requirements. Tape two (DOS) had reported errors in all Document Declaration files, which was caused by the tape writing utility; therefore, it does not meet the requirements.

The Raster files on tape one (VAX) meet the CALS MIL-R-28002A specification. The Raster files on tape two (DOS) do not meet the CALS MIL-R-28002A specification, because of errors introduced during the writing of the tape.

Tape one (VAX) meets the CALS MIL-STD-1840A requirements.

Tape two (DOS) does not meet the CALS MIL-STD-1840A requirements.

9. Appendix A - Tapetool Report Logs

9.1 Tape Catalog

```
Air Force CALS Test Network Catalog Evaluation - Version 1.2; Release Number 8

  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information
    ANSI X3.27 (1987) - File Structure and Labeling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Thu Apr 15 11:30:31 1993

MIL-STD-1840A File Catalog

File Set Directory: /cals/tapetool8/Set086

                                                                    Page: 1
```

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00260	02048/000001	Extracted
D002	Document Declaration	D/00260	02048/000001	Extracted
D003	Document Declaration	D/00260	02048/000001	Extracted
D004	Document Declaration	D/00260	02048/000001	Extracted
D005	Document Declaration	D/00260	02048/000001	Extracted
D001R001	Raster	F/00128	02048/000015	Extracted
D001R002	Raster	F/00128	02048/000016	Extracted
D001R003	Raster	F/00128	02048/000016	Extracted
D002R001	Raster	F/00128	02048/000053	Extracted
D002R002	Raster	F/00128	02048/000032	Extracted
D002R003	Raster	F/00128	02048/000033	Extracted
D003R001	Raster	F/00128	02048/000054	Extracted
D004R001	Raster	F/00128	02048/000074	Extracted
D005R001	Raster	F/00128	02048/000019	Extracted
D005R002	Raster	F/00128	02048/000018	Extracted

```
Catalog Process terminated normally.
```

9.2 Tape Evaluation Log

```
Air Force CALS Test Network Tape Evaluation - Version 1.2; Release Number 8
  Standards referenced:
    ANSI X3.27 (1987) - File Structure and Labeling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Thu Apr 15 11:30:13 1993

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1CALS01                                                              4

  Label Identifier: VOL1
  Volume Identifier: CALS01
  Volume Accessibility:
  Owner Identifier:
  Label Standard Version: 4

HDR1D001             CALS0100010001000000 93097 00000 000000

  Label Identifier: HDR1
  File Identifier: D001
  File Set Identifier: CALS01
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0000
  Generation Version Number: 00
  Creation Date:  93097
  Expiration Date:  00000
  File Accessibility:
  Block Count: 000000
  Implementation Identifier:

HDR2D0204800260                                  00

  Label Identifier: HDR2
  Recording Format: D
  Block Length: 02048
  Record Length: 00260
  Offset Length: 00
```

```
************ Tape Mark ***************

  Actual Block Size Found = 2048 Bytes.

  Number of data blocks read = 1.

************ Tape Mark ***************

EOF1D001            CALS0100010001000000 93097 00000 000001

  Label Identifier: EOF1
  File Identifier: D001
  File Set Identifier: CALS01
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0000
  Generation Version Number: 00
  Creation Date:  93097
  Expiration Date:  00000
  File Accessibility:
  Block Count: 000001
  Implementation Identifier:

EOF2D0204800260                                    00

  Label Identifier: EOF2
  Recording Format: D
  Block Length: 02048
  Record Length: 00260
  Offset Length: 00

************ Tape Mark ***************

                        <<<<< PART OF THE LOG FILE REMOVED HERE >>>>>

************ Tape Mark ***************

HDR1D005R002        CALS0100010015000000 93097 00000 000000

  Label Identifier: HDR1
  File Identifier: D005R002
  File Set Identifier: CALS01
  File Section Number: 0001
  File Sequence Number: 0015
  Generation Number: 0000
  Generation Version Number: 00
```

```
  Creation Date:  93097
  Expiration Date:  00000
  File Accessibility:
  Block Count: 000000
  Implementation Identifier:

HDR2F0204800128                                    00

  Label Identifier: HDR2
  Recording Format: F
  Block Length: 02048
  Record Length: 00128
  Offset Length: 00

************ Tape Mark ***************

  Actual Block Size Found = 2048 Bytes.

  Number of data blocks read = 18.

************ Tape Mark ***************

EOF1D005R002         CALS0100010015000000 93097 00000 000018

  Label Identifier: EOF1
  File Identifier: D005R002
  File Set Identifier: CALS01
  File Section Number: 0001
  File Sequence Number: 0015
  Generation Number: 0000
  Generation Version Number: 00
  Creation Date:  93097
  Expiration Date:  00000
  File Accessibility:
  Block Count: 000018
  Implementation Identifier:

EOF2F0204800128                                    00

  Label Identifier: EOF2
  Recording Format: F
  Block Length: 02048
  Record Length: 00128
  Offset Length: 00

************ Tape Mark ***************
```

```
************ Tape Mark ***************

############ End of Volume CALS01 ###############

############ End Of Tape File Set ###############

Deallocating /dev/rmt0...

Tape Import Process terminated normally.
```

9.3 Tape File Set Validation Log

```
Air Force CALS Test Network File Set Evaluation - Version 1.2; Release Number 8
  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information
    MIL-R-28002 (1989) - Raster Graphics Representation In Binary
                         Format, Requirements For

Thu Apr 15 11:30:31 1993

MIL-STD-1840A File Set Evaluation Log

File Set: Set086

Found file: D001
Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: HARRIS CORP. 301 WASHINGTON ST. BELLEVUE,NE 68005-2558
srcdocid: CB170078test     64755 A              00010001UMCAHN
srcrelid: NONE
chglvl: 1,A,19870122
dteisu: 19920430
dstsys: EDCARS SYSTEM
dstdocid: CB170078test     64755 A              00010001UMCAHN
dstrelid: NONE
dtetrn: 19930407
dlvacc: NONE
filcnt: R3
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: Product Data
docttl: PRINTED CIRCUIT BOARD

Found file: D001R001
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid: CB170078         64755 A              00010008UMCAHN
dstdocid: CB170078         64755 A              00010008UMCAHN
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: NONE
rtype: 1
rorient: 090,270
```

```
rpelcnt: 001700,002191
rdensty: 0200
notes: NONE

Saving Raster Header File: D001R001_HDR
Saving Raster Data File: D001R001_GR4
```

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

```
Found file: D005R002
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid: PL633404          64755 M              00010002UMCAHN
dstdocid: PL633404          64755 M              00010002UMCAHN
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: NONE
rtype: 1
rorient: 090,270
rpelcnt: 001700,002191
rdensty: 0200
notes: NONE

Saving Raster Header File: D005R002_HDR
Saving Raster Data File: D005R002_GR4

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D005.

No errors were encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.
```

9.4 Tape Two Evaluation Log

```
Air Force CALS Test Network File Set Evaluation - Version 1.2; Release Number 8
  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information
    MIL-R-28002 (1989) - Raster Graphics Representation In Binary
                         Format, Requirements For

Thu Apr 15 11:44:33 1993

MIL-STD-1840A File Set Evaluation Log

File Set: Set087

Found file: D001
Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: Harris Corp  301 Washington St.  Bellevue,NE  68005-2558
srcdocid: CB170078test     64755 A              00010001UMCAHN
srcrelid: NONE
chglvl: 1,A,19870122
dteisu: 19920430
dstsys: EDCARS SYSTEM
dstdocid: CB170078test     64755 A              00010001UMCAHN
dstrelid: NONE
dtetrn: 7463
*** ERROR (MIL-STD-1840A; 5.1.1.2) - Invalid date format encountered.
*** NOTE (MIL-STD-1840A; 5.1.1.2) - Date Format shall be a four digit year
    followed by a two digit month followed by a two digit day.
dlvacc: NONE
filcnt: R3
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: Product Data
docttl: PRINTED CIRCUIT BOARD

1 error(s), 0 warning(s), and 1 note(s) were encountered
in Document Declaration File D001.


Found file: D001R001
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid: CB170078         64755 A              00010008UMCAHN
```

```
dstdocid: CB170078          64755 A              00010008UMCAHN
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: NONE
rtype: 1
rorient: 090,270
rpelcnt: 001700,002191
rdensty: 0200
notes: NONE
```

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

```
Found file: D005
Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: Harris Corp  301 Washington St.  Bellevue, NE  68005-2558
srcdocid: PL633404test      64755 M              00010001UMCAHN
srcrelid: NONE
chglvl: 1,M,19870601
dteisu: 19920417
dstsys: EDCARS SYSTEM
dstdocid: PL633404test      64755 M              00010001UMCAHN
dstrelid: NONE
dtetrn: 7463
*** ERROR (MIL-STD-1840A; 5.1.1.2) - Invalid date format encountered.
*** NOTE (MIL-STD-1840A; 5.1.1.2) - Date Format shall be a four digit year
    followed by a two digit month followed by a two digit day.
dlvacc: NONE
filcnt: R2
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: Product Data
docttl: SYSTEMS COMMUNICATIONS UNIT

1 error(s), 0 warning(s), and 1 note(s) were encountered
in Document Declaration File D005.


Found file: D005R001
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid: PL633404          64755 M              00010002UMCAHN
dstdocid: PL633404          64755 M              00010002UMCAHN
txtfilid: NONE
```

```
figid: NONE
srcgph: NONE
doccls: NONE
rtype: 1
rorient: 090,270
rpelcnt: 001700,002191
rdensty: 0200
notes: NONE

Saving Raster Header File: D005R001_HDR
Saving Raster Data File: D005R001_GR4

Found file: D005R002
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid: PL633404          64755 M              00010002UMCAHN
dstdocid: PL633404          64755 M              00010002UMCAHN
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: NONE
rtype: 1
rorient: 090,270
rpelcnt: 001700,002191
rdensty: 0200
notes: NONE

Saving Raster Header File: D005R002_HDR
Saving Raster Data File: D005R002_GR4

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

A total of 1 error(s), 0 warning(s), and 1 note(s) were
encountered in Document D005.

A grand total of 5 error(s), 0 warning(s), and 5 note(s) were
encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.
```

10. Appendix B - Detail Raster Analysis

10.1 Output HiJaak/Ventura Publisher

10.1.1 D001R001

APPLICATION			REVISIONS					
DASH NO.	NEXT ASSY	USED ON	REV	DESCRIPTION			DATE	APPROVED
	GEN USE	DMSP	A	CHNG BY KW	CHK BY [signature]	ECO NO 170078A01	[illegible]	[signature]
				Replaces Rev – with change; Rev Per ECO				

THIS DRAWING HAS BEEN GENERATED AND IS MAINTAINED BY A CAD SYSTEM. CHANGES SHALL ONLY BE INCORPORATED AS DIRECTED BY THE GOVERNMENT DESIGN ACTIVITY.

NOTES:

1. INTERPRET DRAWING IAW MIL-STD-100 AND MIL-T-31000.

COMMODITY CODE: 822CBP

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CURRENT CONTRACT NO. F04606-91-D-0159		
PROJ ENGR 3-6-87 B Jarrell	DRWN BY 1-22-87 JGE	PRINTED CIRCUIT BOARD, WIREWRAP PINS
MMS	CHK BY 1-22-87 JJG	
MFG 3-30-87 R Beelmear	ENGR 3-23-87 P Zuhkie	
QC 3-16-87 MJ Kosem	RELEASED 3-31-87 MWK/MJ Reeder	SIZE A · CAGE NO. 64755 · DWG. NO. 170078 · REV A
CM	JJG 3-26-87	SCALE NONE · SHEET 1 of 8

10.1.2 D001R002

1.0 SCOPE

1.1 This specification establishes the requirements for wire wrap panels for mounting microcircuits.

2.0 APPLICABLE DOCUMENTS

2.1 Unless otherwise specified, the documents of the issue in effect on the date of purchase shall be the invoked issues, to the extent specified herein. Where conflict occurs between these documents and this specification, this specification shall apply.

Specifications

Federal:

QQ-N-290	Nickel Plating
QQ-C-533	Copper-Beryllium Alloy Strip
QQ-B-626	Brass, Leaded and Nonleaded Rod, Shapes, Forgings, and Flat Product With Flat Finished Edges.

Military:

MIL-T-10727	Tin Plating, Electrodeposited or Hot Dipped for Ferrous and Nonferrous Metals
MIL-1-45208	Inspection System Requirements

Standards

MIL-STD-105	Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-130	Identification Marking of U.S. Military Property

Industry:

IPC MIL-910	Design and End Production Specification for Rigid Multilayer Printed Boards

3.0 REQUIREMENTS

3.1 Mechanical.

3.1.1 Outline and Dimensions. The outline and dimensions shall be as specified in Figure 1.

3.1.2 Material. The material shall be as follows.

a) Panel: Two (2) ounce copper glassy epoxy laminate, 4 layer multilayer in accordance with IPL-MIL-910, Class 1 requirements, .125 thick in microcircuit field, .062 thick in edge connector field and mounting sides

b) Sockets: Body, brass half hard in accordance with QQ-B-626, contact, beryllium copper in accordance with QQ-C-533.

c) Card Ejector: Plastic, commercial (Nylon 6/6).

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	SCALE		SHEET 2	

400973-2K

10.1.3 D001R003

3.1.3 Finish. The finishes shall be as follows:
- a) Panel Plane: Tin plate in accordance with MIL-T-10727, connector fingers, gold plate over nickel plate.
- b) Sockets: Gold plate in accordance with MIL-G-45204, 0.00005 inch thick minimum over nickel plate in accordance with QQ-N-290.

3.1.4 Marking. Parts or packages shall be marked with the manufacturer's name or symbol and part number as a minimum in accordance with MIL-STD-130.

3.2 Workmanship. Workmanship shall be of a sufficiently high grade to insure that printed circuit boards are of uniform quality and free from burrs, slivers, sharp edges, or other defects which would affect their service life and shall be uniform in appearance.

3.3 Environmental. The parts shall be capable of meeting the following environments without degradation.

3.3.1 Temperature Range

Operating: 0°C to +50°
Non-operating: -40°C to +75°C

3.3.2 Fungus. Materials shall be fungus-inert (non-nutrient).

3.3.3 Humidity/Moisture Resistance. Hardware shall show no evidence of physical degradation in an environment of 95% relative humidity including condensation caused by temperature variations.

3.3.4 Salt Spray. Hardware shall show no evidence of physical deterioration when exposed to a salt-laden atmosphere as might be encountered during service in a coastal environment.

3.3.5 Shock/Vibration. Hardware shall be capable of sustaining normal unabsorbed stress resulting from shipping, installation, or maintenance handling.

3.3.6 Altitude.
Operating: Sea-Level to 10,000 feet
Non-operating: Sea-level to 50,000 feet

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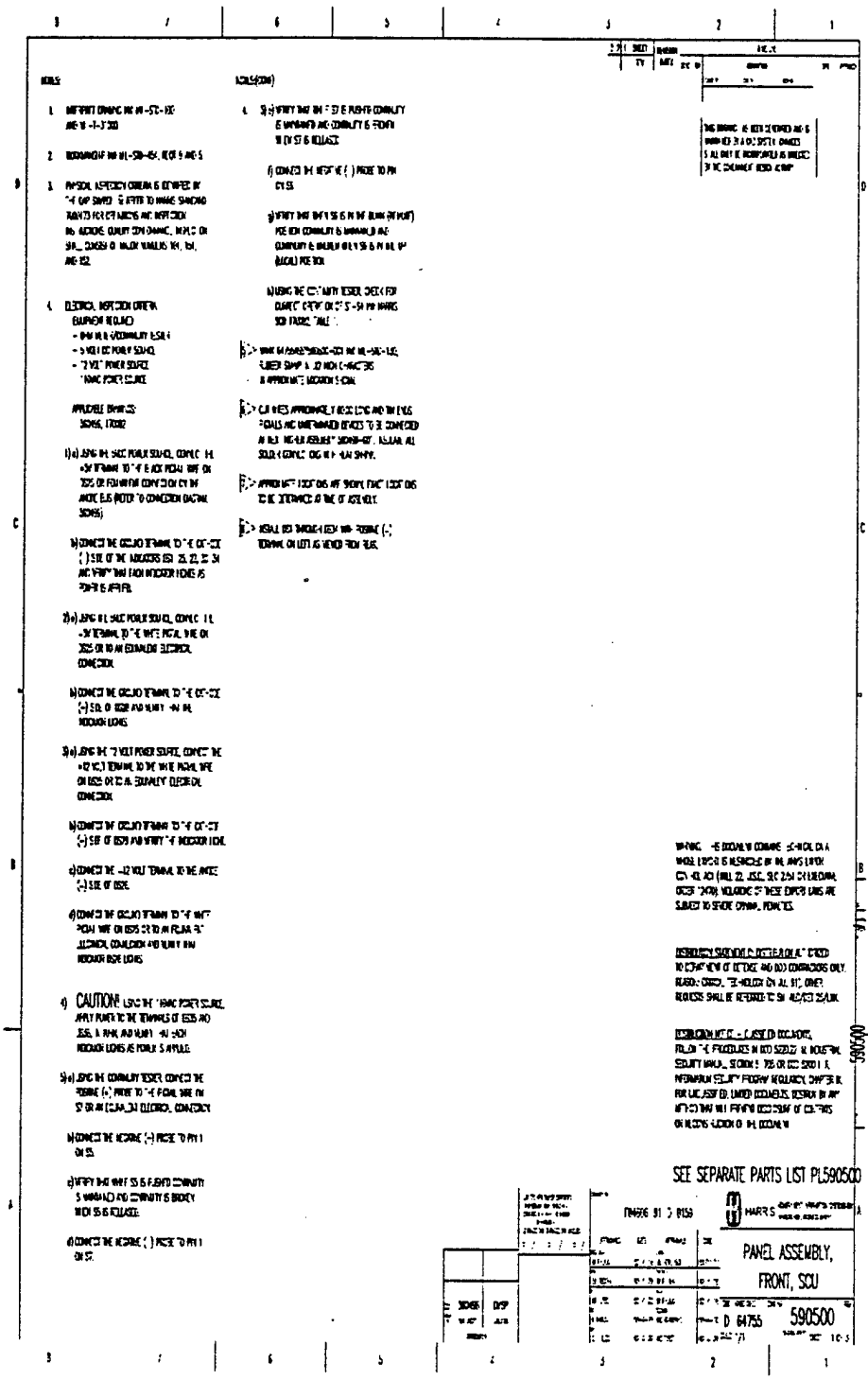
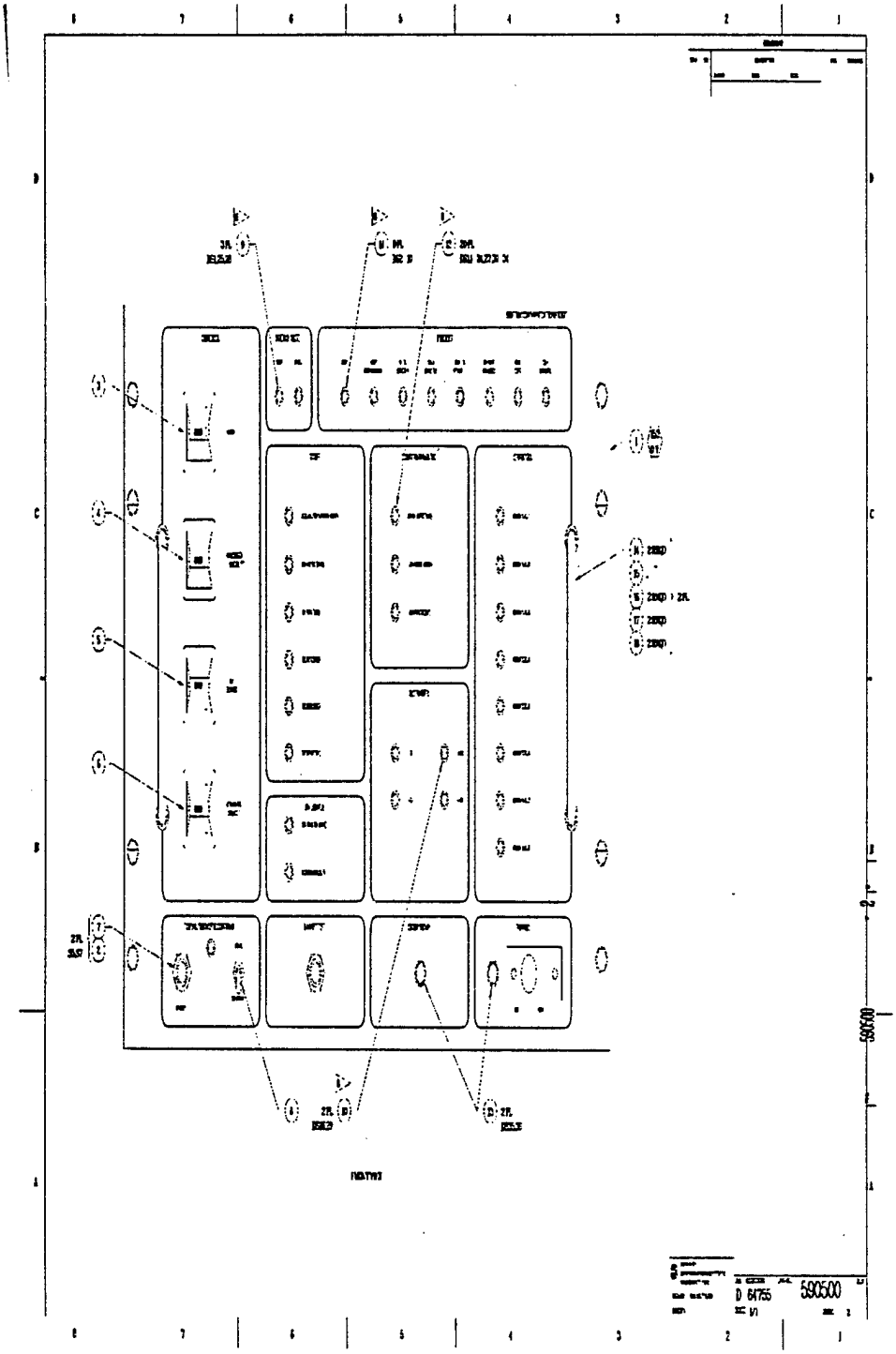
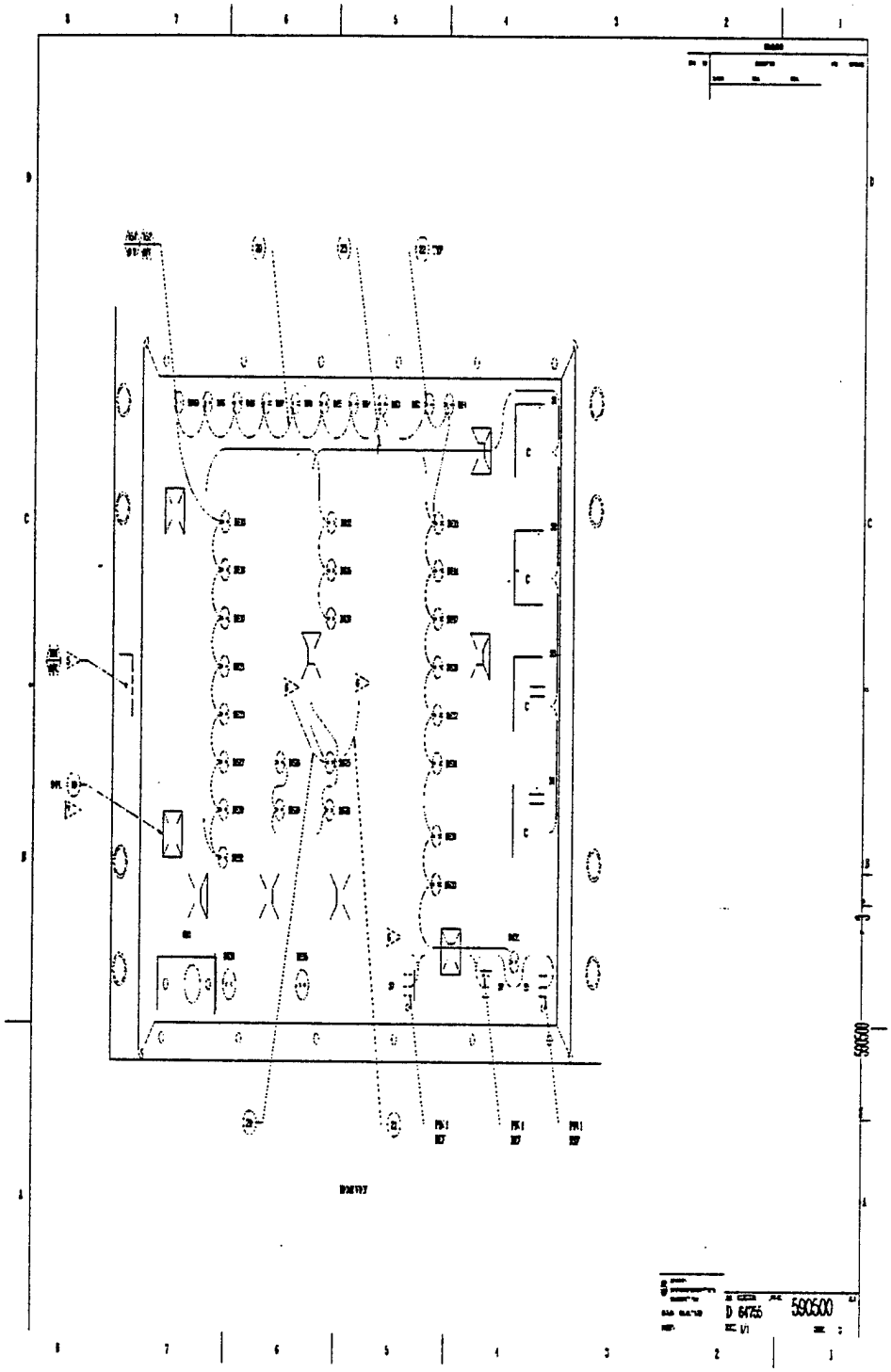
10.1.4 D002R001



10.1.5 D002R002



10.1.6 D002R003



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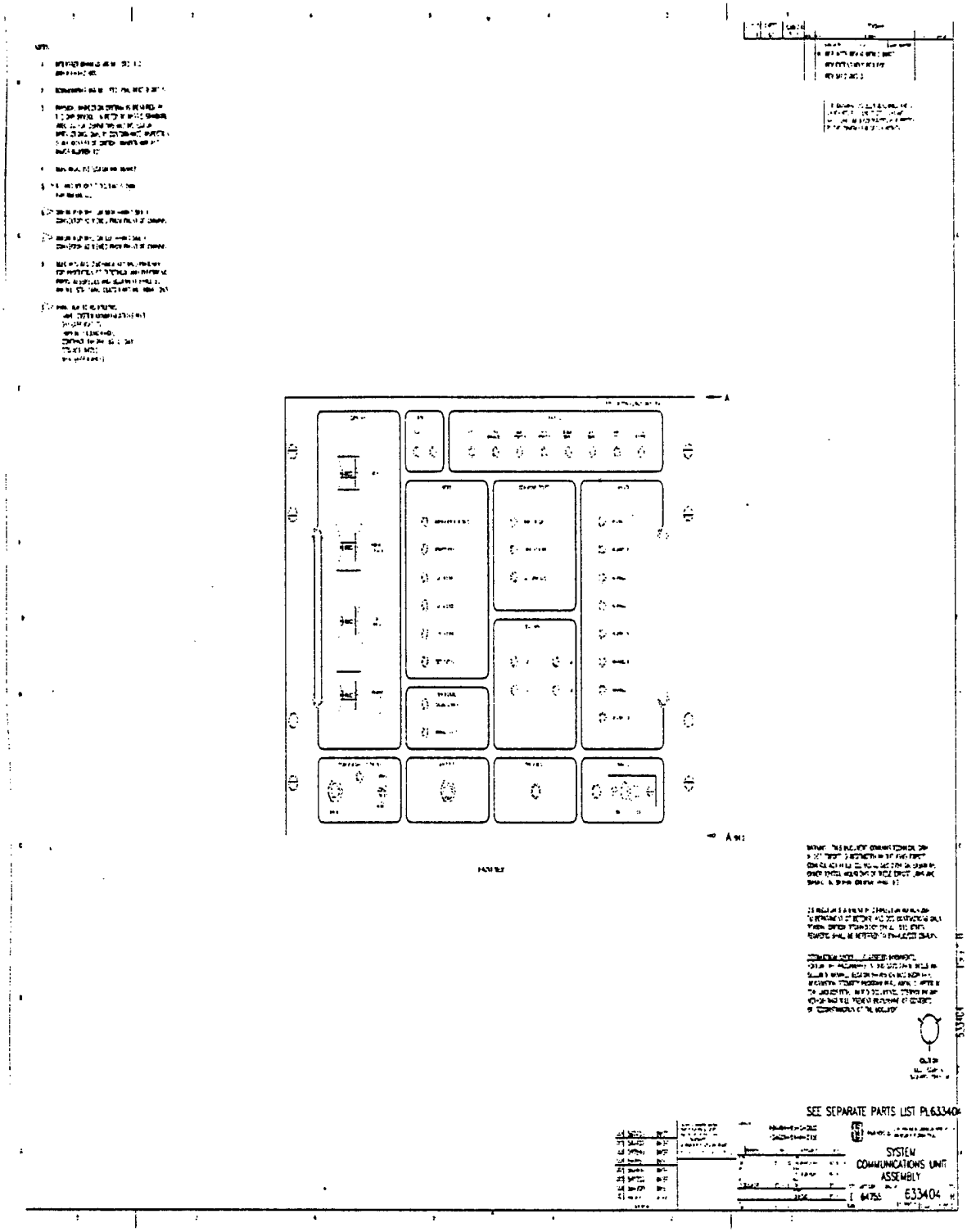
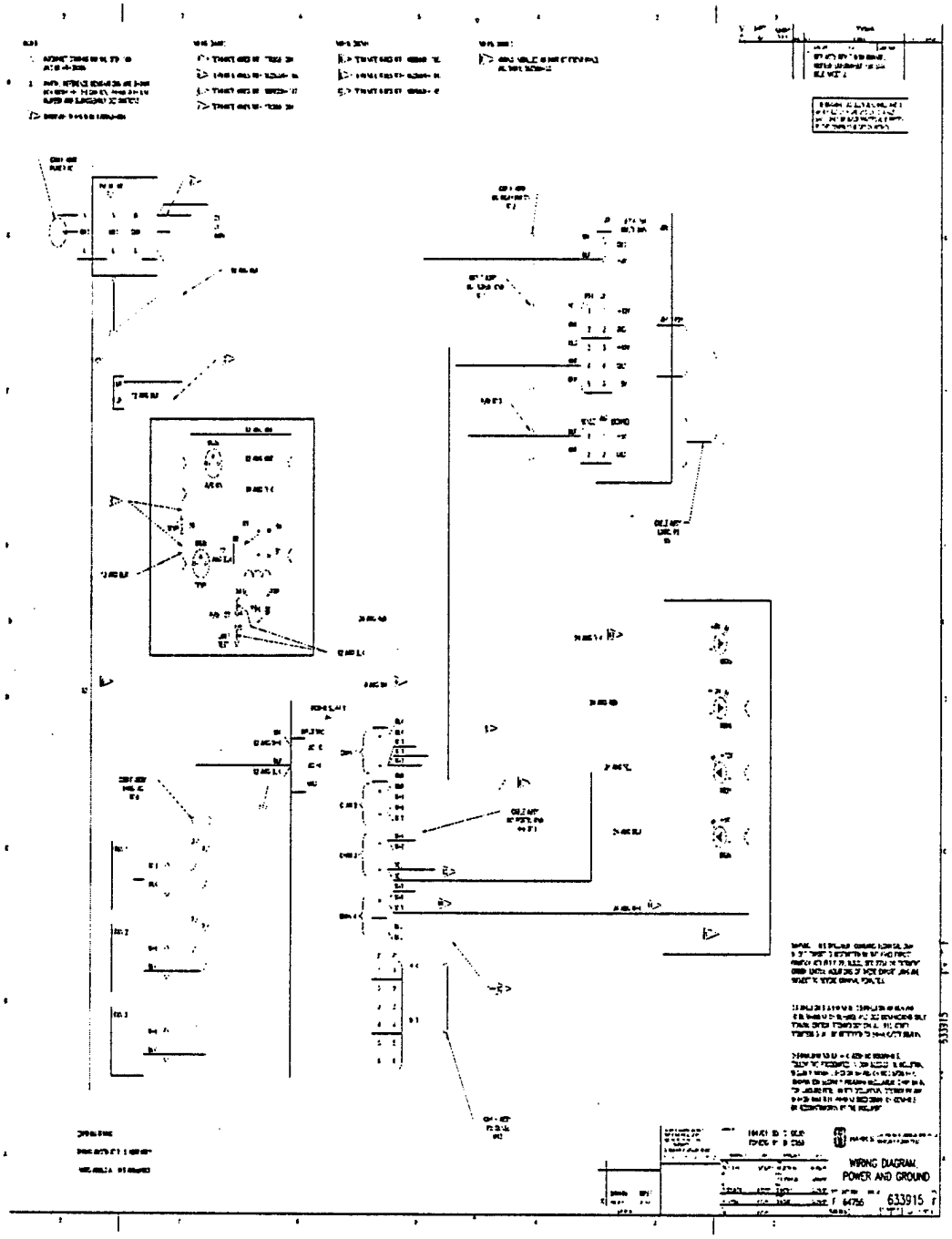


10.1.8 D004R001



10.1.9 D005R001

ASSOC LIST PREFIX	HARRIS GISD P.O. BOX 98000 MELBOURNE, FL 32902	ORIGINAL CONTRACT NUMBER	CURRENT CONTRACT NUMBER	CAGE NO.	LIST NUMBER	SHEET
		F04701-85-C-0030	F04606-91-D-0159	64755	PL633404	1 of 2

LIST TITLE	CONTRACTOR AUTHENTICATION	GOVERNMENT AUTHENTICATION
SYSTEM COMMUNICATIONS UNIT	AC POST	

REVISION STATUS FOR LIST ON DATE NOTED — LIST ORIGINATION DATE

REVISION SYMBOL	ECP NO.	REVISION DESCRIPTION	APPROVED	DATE	REMARKS
A		Add temperature monitoring devices and PC card connectors to card cage. Correct reference designator. Link wiring diagram.		88/08/10	
B	7025-002 R2C1	Create G02.		88/09/29	
C		Link test fixture.		88/10/31	
D		Remove test fixture. Add required material. Add substitute for discontinued part.		89/01/16	
E	7025-007 C1	Add alternate part numbers. Create G03.		89/02/14	
F		Add required material.		89/04/20	
G	7025-007 C1	Remove non-fitting hardware.		89/11/01	
H	7025-007 C1	Add required material.		90/01/15	
	7025-002 R2C1	SD Mod - changed Stg 1 and Stg 2 cards from G01 to G02			
J	7038-002	NH Mod - separate chassis and logic ground.		90/02/02	
K	7038-002	Replace vendor part numbers with SCD numbers to comply with Level 3 documentation.		90/09/24	
L	7025-007 C1	Link ATP document.		91/01/21	
M	1009-024	Restructuring of assembly required in accordance with customer direction. Delete G01 and G02.		92/04/17	

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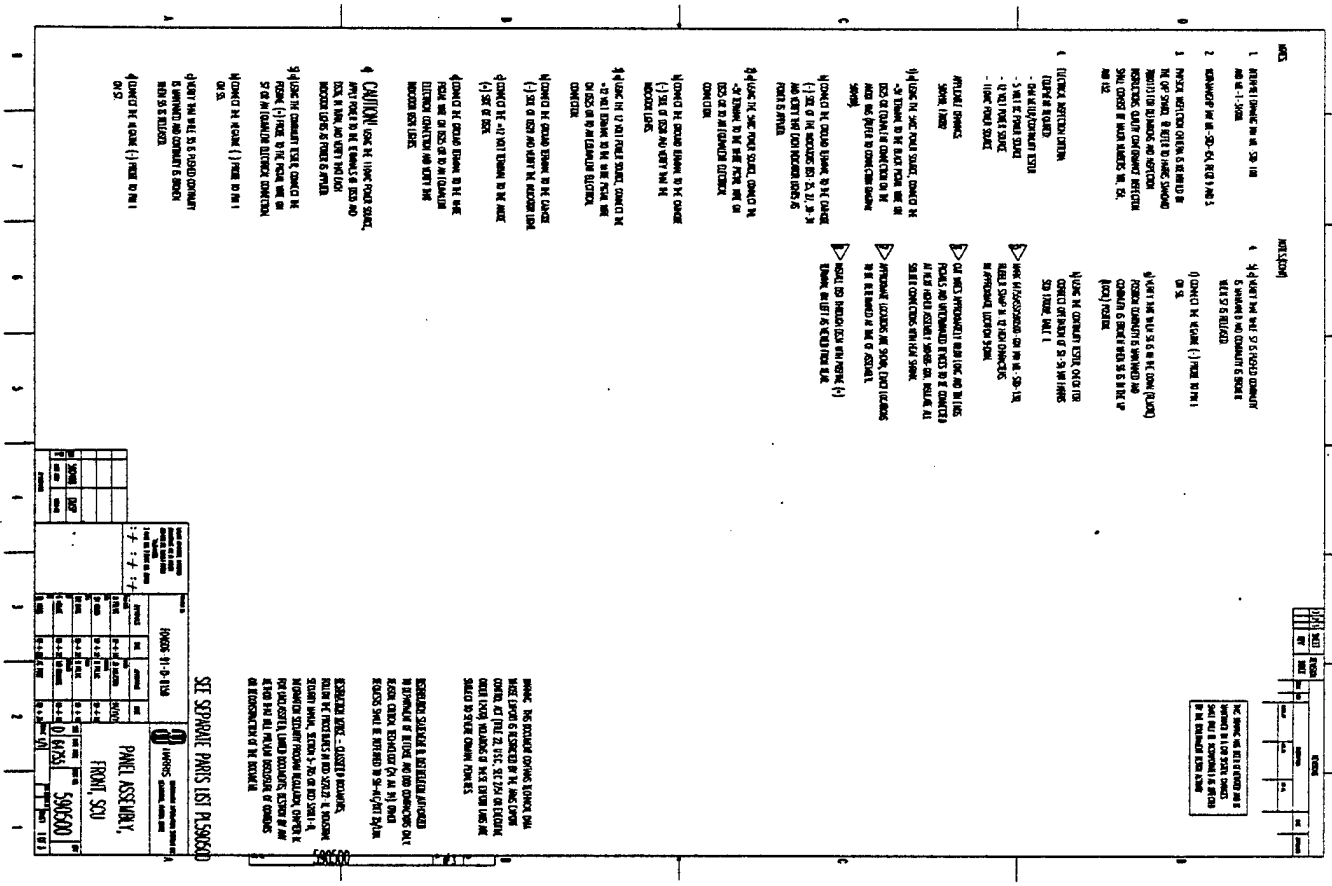
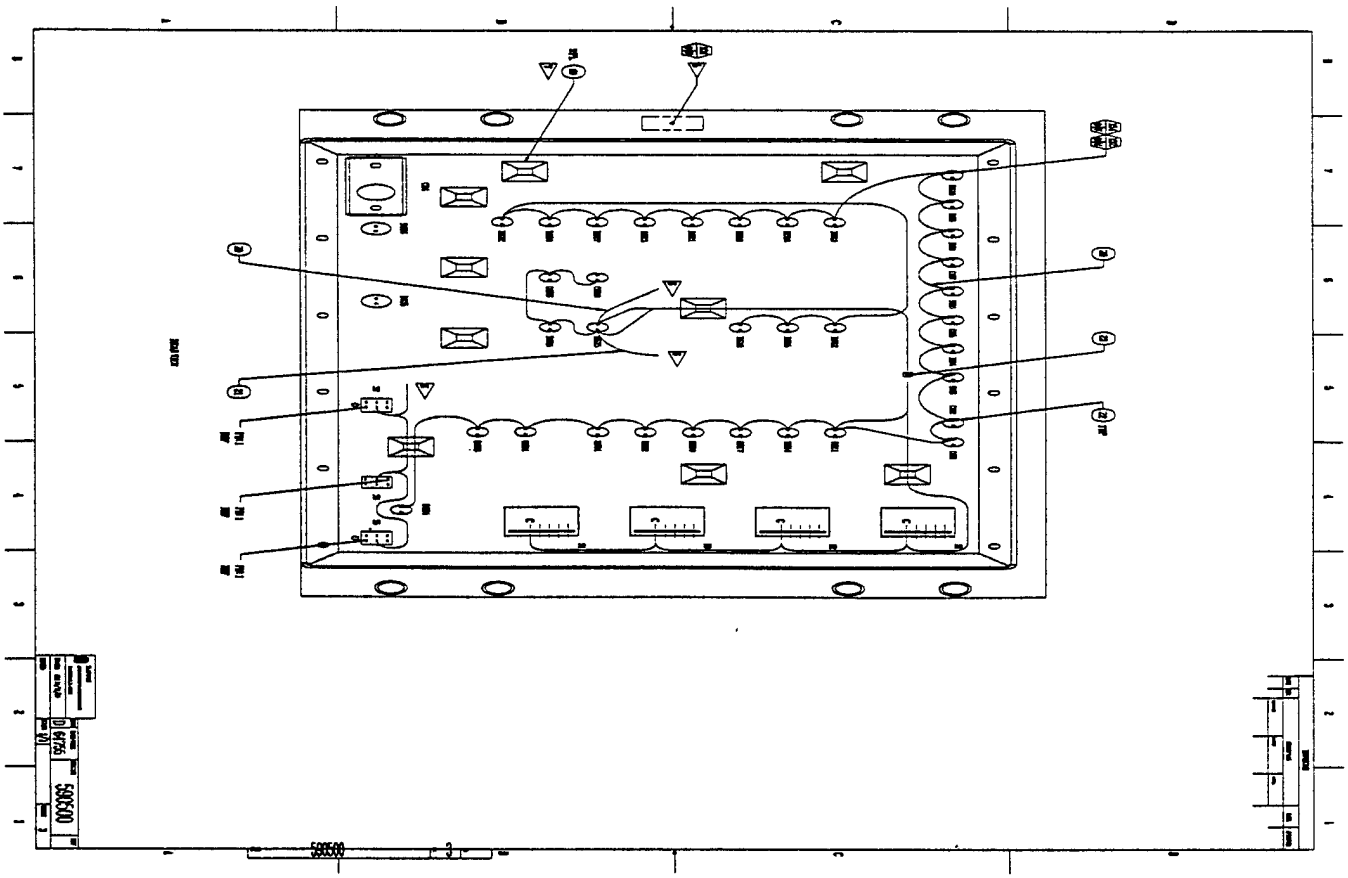
10.2 Output IGESView

10.2.1 D002R001



10.2.2 D002R003